

Home
Renewable Energy
Science/Electronics
Projects
Build Van de Graaff
Wimshurst machine
Kelvin water dropper
Electroscope
Corona motors
Ball bearing motor
Crystal radios
Tips and tricks
Crystal earphones
Using earbuds
Razor blade diode
Amplifier for speaker
Amplifier for earphone
Loop antenna radio
AM Radio Transmitter
Fresnel lens
Electrets
Piezoelectric
Electrolytic capacitor
Joule thief
Peltier/Seebeck effect
Franklin's bell
Can Stirling
Big Stirling
555 timer music
TEA laser
Laser diode fun
How Ion Prop. Works
Lifter/ionocraft
Star Trek Enterprise
Smoke precipitator
Moving with sound
Straw music instruments
Gravity light - DIY
Nitinol wire
Pyramid hologram
Arduino speech/Talkie
Arduino controlled Skull
Pinhole camera
Wireless electricity
Fly swatter powered CFL
Chlorophyll/fluorescence
Small SG Tesla coil
Photophone
Laser communicator
Hero's steam engine
Alcohol stove
Sunflower heat engine
BB-8 Droid
Ball cyclotron
Atmos. electricity
Photoelectric effect
Bottle rocket
Neural networks
Ornithopter
Curie temp. experiment
Lightning in bottle
Gyroscope - vinyl records
Raspberry Pi
Pepper's ghost phone
Potato chip circuit
Ion wind rotor
LED flashlight
Resources
Power supplies
HV Probes/measuring
Miscellaneous
Efficiency & Conservation
Composting
Food
Non-conv. Energy
Non-conv. Propulsion
Space
Stories

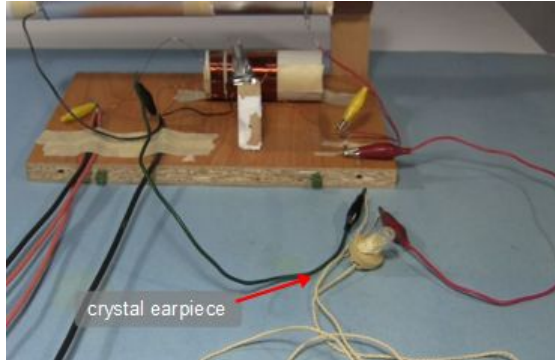
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Simplify Onboarding
and
Decrease Turnover

To use earbuds/iPhone earpods with a crystal radio you need to insert a transformer where the crystal earpieces would normally connect to a [crystal radio](#). The jack for the earbuds would be connected to the transformer. Technically speaking, this is for purposes of impedance matching. Below is a diagram for one such crystal radio and some sample photos.

Crystal radio with crystal earpiece.



Crystal radio with transformer and jack going to earbuds.

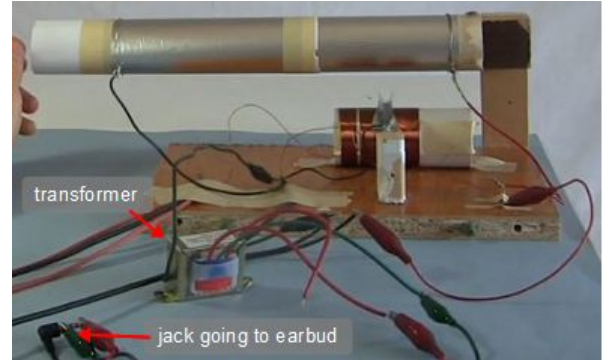


Diagram with crystal earpiece.

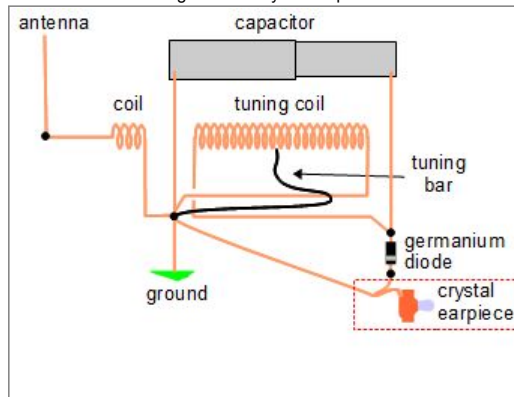
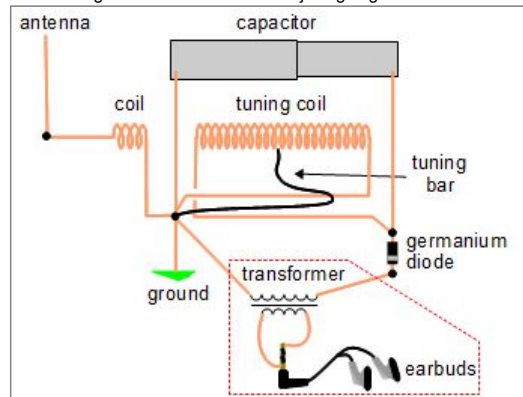
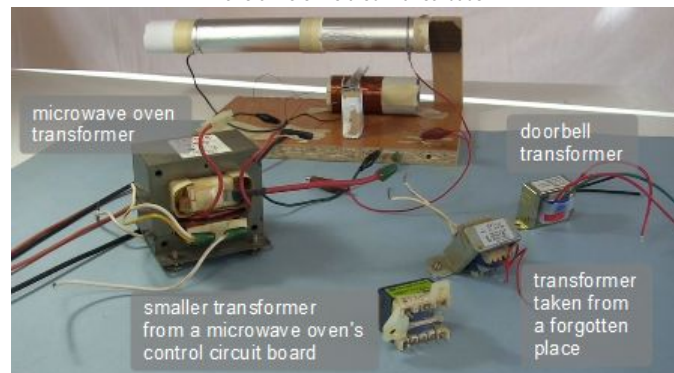


Diagram with transformer and jack going to earbuds.



In the photo below are shown the transformers I've tried. Note that the transformer needs to be a *step-up* or *step-down* transformer. I'm not certain that a one-to-one transformer will work. The three smaller ones all gave around the same results. The large microwave oven transformer didn't work as well; the sound was too quiet.

Transformers I've tried with earbuds.



Connecting to the earbud/earpod

Earbud/earpod connectors usually have three places to connect on them. As shown in the following diagram, the tip is for one earbud, the middle is for the other earbud and the place nearest the plastic molded casing is common to the two.

Where to connect to the earbud jack.

AdChoices

Headphones

Model Kits



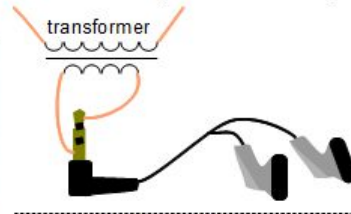
RC
Networks &
RC Filters



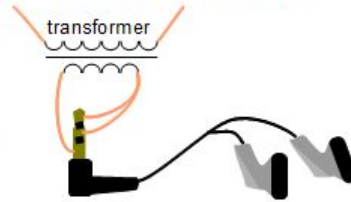
Custom
designed to
prevent or
minimize the
occurrence of
arcing & noise
generations



For connecting to one earbud only.



For connecting to both earbuds.



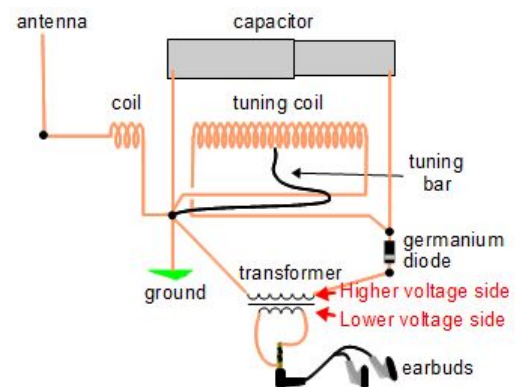
How to determine which side of the transformer to use where

A transformer has two coils/sides and each coil has two wires coming from it. You need to connect the two wires from one side to the crystal radio and the two wires from the other side to the earbuds.

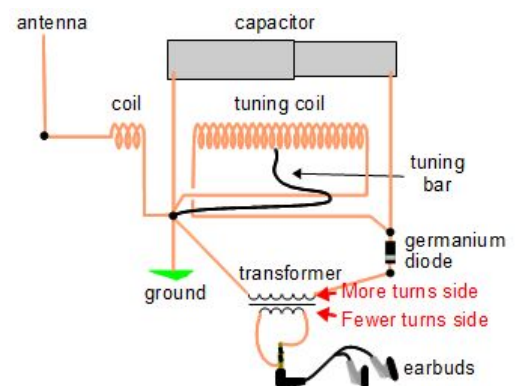
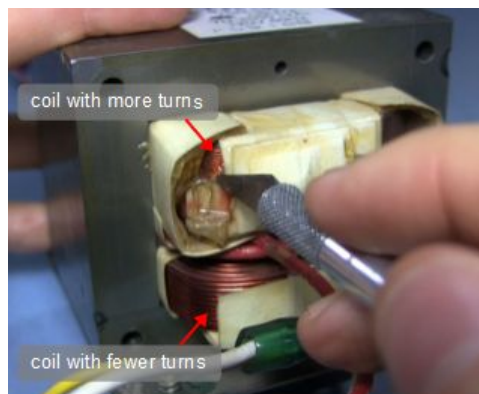
Here are some ways to determine which side goes where. See the corresponding diagrams and photos below. The side that connects to the crystal radio is the side:

- that's labelled with the higher voltage,
- that has the coil with the most turns, or
- that has the highest resistance.

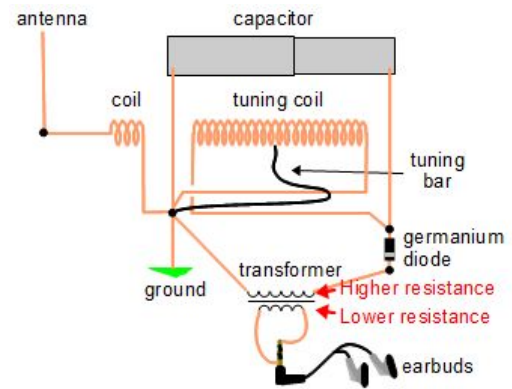
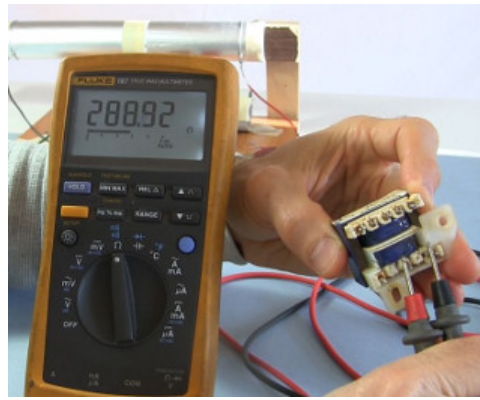
Determining using labelled input/output voltages.



Determining using number of turns for the coils.



Determining using resistance of the coils.

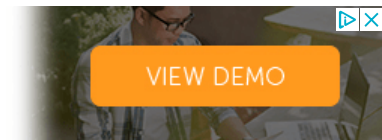


Video - Use earbuds/earphones with a crystal radio

The following is a video showing all of the above - basically how to make earbuds/earpods work with a crystal radio using a transformer.



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